

Claims

1. Device for the administration of basic active agents, particularly nicotine, to the human or animal body by means of inhalation, wherein said device
 - comprises a first preparation containing a nicotine base or/and another basic active agent;
 - comprises a second or a plurality of further preparations, at least one of said preparations containing at least one volatile acid suitable for inhalation.
2. Device according to claim 1, characterised in that the said preparations are applied at separate locations within the device.
3. Device according to claim 1 or 2, characterised in that the said first preparation contains nicotine base or/and another basic active agent in combination with at least one solvent suitable for inhalation, ethanol being preferred.
4. Device according to any one of the preceding claims, characterised in that the said volatile acid(s) is/are contained in the preparation in combination with at least one solvent which is suitable for inhalation, ethanol being preferred.
5. Device according to any one of the preceding claims, characterised in that the said volatile inhalable acid(s) is/are selected from the group comprising acetic acid, lactic acid, malic acid and propionic acid.
6. Device according to any one of the preceding claims, characterised in that during the inhalation process said device releases, on the one hand, nicotine base and, on the

other hand, volatile acid(s) in approximately equimolar quantities from the said preparations.

7. Device according to any one of the preceding claims, characterised in that during an inspiration process, which lasts from 1 to 10 s and which reaches a velocity of inspiration of 0.1 to 1 l/min, said device releases 5 to 250 µg, preferably 10 to 100 µg, of nicotine base or of another basic active agent from the said preparation into the inspired air.

8. Device according to any one of the preceding claims, characterised in that during inhalation aerosol particles are formed in the internal space of said device, the size of said particles preferably being less than 10 µm.

9. Device according to any one of the preceding claims, characterised in that the said preparation(s) contain(s) at least one further additive which is volatile and is suitable for inhalation, preferably menthol.

10. Device according to any one of the preceding claims, characterised in that at least one of the said nicotine base-containing or acid(s)-containing preparations has a polymer matrix wherein the active agent or the acid(s) is/are contained, preferably in dissolved or dispersed form.

11. Device according to claim 10, wherein the polymer matrix is preferably based on polymers selected from the group comprising polyethylenes, polypropylenes, silicone polymers (polydimethylsiloxanes) and poly(meth)acrylates.

12. Device according to any one of the preceding claims, characterised in that it is at least partially, preferably entirely, made from a material which is impermeable to the

active agent(s), especially from polyester material which is coated with a copolymer of acrylonitrile and methacrylate, and/or from metal foil(s) or combinations of the mentioned materials.

13. Device according to any one of the preceding claims, characterised in that, after its production and during storage, it is covered with a peelable protective layer which is impermeable to the basic active agent(s), such that a compartment containing the active agent(s) and a compartment containing the acid(s) is formed by the peelable protective layer, both compartments being separated from each other in a gas-tight manner and being sealed from the ambient air.

14. Device according to any one of the preceding claims, characterised in that it has a first air inlet aperture, a second air inlet aperture and an air outlet aperture, such that the air stream flowing in through the first inlet aperture predominantly flows over the said first preparation and that the air stream flowing in through the second inlet opening predominantly flows over the said second or further preparation(s), the two air streams combining later in their path and escaping from the device through the said outlet aperture.

15. Device according to claim 14, characterised in that the conduit cross-sections of the air inlet apertures and of the air outlet aperture are dimensioned such that the negative differential pressure present in the oral cavity during the inspiration process is at the most 300 Pa, preferably at the most 200 Pa.

16. Device according to any one of the preceding claims, characterised in that it comprises at least one formed part produced by deep-drawing wherein oblong recessions are pro-

vided which define a first air supply channel and a second air supply channel as well as an air outlet channel formed by combining these two air channels.

17. Device according to claim 16, characterised in that it has an upper part and a bottom part, each formed by deep-drawing, these two formed parts being provided with the said recesses and being connected with each other in such a manner that, by means of the recesses located opposite one another, a first air supply channel with an air inlet aperture and a second air supply channel with an air inlet aperture are formed, as well as, by combining these two air channels, an air outlet channel with an air outlet aperture.

18. Device according to any one of the preceding claims, characterised in that the said first preparation is located in the oblong recess forming the first air supply channel, and the said second preparation is located in the oblong recess forming the second air supply channel, it being preferred for the preparations to be applied in the vicinity of the respective air inlet opening.

19. Method for the production of a device according to any one of claims 1 to 18, said method comprising the following steps:

- producing a formed part, preferably by deep-drawing, said formed part comprising a first oblong, concave recess for receiving the said first preparation, and a second oblong, concave recess for receiving the said second preparation;
- introducing a predetermined amount of a first preparation, containing a nicotine base or another basic active agent, into the said first recess;

- introducing a predetermined amount of a second preparation, containing acid(s), into the said second recess.

20. Method according to claim 19, characterised in that the filled formed part is covered with a peelable protective layer impermeable to the basic substance(s), such that a compartment containing the active agent(s) and a compartment containing the acid(s) are formed by the peelable layer, both compartments being separated from each other in a gas-tight manner and being sealed from the ambient air.

21. Method according to claim 19 or 20, characterised in that during production of the formed part a further oblong, concave recess is formed by deep-drawing which is connected with the said two other recesses and forms an air outlet channel.

22. Method according to claim 21, characterised in that the filled formed part is connected with a formed part serving as the upper part and having oblong recesses corresponding to those of said filled formed part, so that a first air supply channel with an air inlet aperture, a second air supply channel with an air inlet opening, as well as an air outlet channel with an air outlet aperture are formed by the respective, superimposed recesses.

23. Use of an inhaler according to any one of claims 1 to 18 for smoking cessation or for smokeless satisfaction of the craving for nicotine in cases of situational necessity.

24. Use of an inhaler according to any one of claims 1 to 18 for simultaneous inhalation of a basic active agent and one or more volatile acid compounds.